REMARKS

Claims 15 to 19, 23 to 25 and 27 to 30 were rejected under 35 U.S.C. §102(b) as being anticipated by U.S. 4,965,101 (Frei et al.). Claims 15, 16, 19 to 24 and 28 were rejected under 35 U.S.C. §102(b) as being anticipated by U.S. 5,510,194 (Hendricks et al.). Claims 15 to 18, 23, 24 and 27 to 29 were rejected under 35 U.S.C. §102(b) as being anticipated by U.S. 5,543,046 (Van Rijn). Claim 26 was rejected under 35 U.S.C. §103(a) as being unpatentable over Frei et al. in view of U.S. 6,773,497 (Debenedetti et al.). Claim 30 was rejected under 35 U.S.C. §103(a) as being unpatentable over Hendricks et al. or Van Rijn in view of Frei et al.

Claims 15 and 22 have been amended. New claims 31 to 37 have been added. Support for new claims 31 and 33 to 37 can be found in paragraph [0024], for example. Support for new claim 32 can be found in paragraph [0008], for example.

Reconsideration of the application based on the following remarks is respectfully requested.

35 U.S.C. 102(b) Rejections

Claims 15 to 19, 23 to 25 and 27 to 30 were rejected under 35 U.S.C. §102(b) as being anticipated by U.S. 4,965,101 (Frei et al.).

Frei et al. discloses a ceramic foam filter manufactured by roughening the surface of the filter by deposition of inorganic materials and, if required, subsequent decomposition by temperature treatment. (abstract). The underlying ceramic foam filter body may be formed from any conventional ceramic foam material known in the art using any suitable technique known in the art. (Col. 2, Lines 16 to 20). As a possible technique to roughen the surface, it is possible to use a chemical vapor deposition (CVD) method in which Si.sub.3 N.sub.4, SiC, TiC, titanium hydroxycarbide, ZrO_2 and in particular Al_2O_3 and TiN are suitable for use as materials to be deposited. (Col. 3, Lines 10 to 13). When using a CVD technique, care must be taken to use a gas velocity high enough to transport the substance to be deposited right into the interior of the ceramic foam to be coated. (Col. 3, Lines 13 to 18). The rate of build-up of the deposited substance must be monitored in such a way that a coating which is as homogeneous as possible regardless of location is formed within the ceramic foam structure. (Col. 3, Lines 18 to 22).

Claim 15, as amended, recites a filter body for use in a particulate filter for an internal combustion engine, the filter body having internal cavities, formed by using a semiconductor technology type micro-patterning process, the filter body being heatable during operation.

Frei et al. does not disclose a filter body formed by using a semiconductor technology type micro-patterning process, as recited in claim 15. The filter body disclosed in Frei et al. is "formed from any conventional ceramic foam material known in the art using any suitable technique known in the art," not by a semiconductor technology type micro-patterning process. (Col. 2, Lines 16 to 20). Contrary to the assertions of the Office Action, it is respectfully submitted, the etching and chemical vapor deposition (CVD) disclosed in Frei et al. are not used to form used to form a filter body, and also are not used as part of a semiconductor technology type micro-patterning process. The CVD is merely used to add a homogenous coating throughout the internal and external surfaces of the ceramic form filter body so that the ceramic foam filter body has a rough surface. (Col. 3, Lines 10 to 14). The etching disclosed in Frei et al. involves using a solvent to facilitate the roughening by causing coating material to be irregularly deposited on the surface of the ceramic foam filter body. (Col. 2, Lines 61 to 68). Neither the etching process nor the process of adding materials by CVD as disclosed in Frei et al. is a semiconductor technology type micro-patterning process as understood by one of ordinary skill in the art. To this end, it is respectfully submitted that the etching is a nonpattern solvent process and the CVD clearly is not patterned CVD process as asserted at page 2 of the Office Action.

Withdrawal of the rejections under 35 U.S.C. §102(b) to claims 15 to 19, 23 to 25 and 27 is respectfully requested.

Claim 28 recites a particulate filter for a motor vehicle, comprising
a housing with at least one gas inlet and at least one gas outlet, and
a filter body in the housing,
the filter body being formed by using a semiconductor technology type micro-patterning process.

Claim 30 recites a vehicle including a particulate filter comprising:
a housing with at least one gas inlet and at least one gas outlet, and

a filter body in the housing,

the filter body being formed by using a semiconductor technology type micro-patterning process.

Frei et al., as discussed above, does not disclose the filter body being formed by using a semiconductor technology type micro-patterning process, as recited in claims 28 and 30.

Withdrawal of the rejections under 35 U.S.C. §102(b) to claims 28 to 30 is respectfully requested.

Claims 15, 16, 19 to 24 and 28 were rejected under 35 U.S.C. §102(b) as being anticipated by U.S. 5,510,194 (Hendricks et al.).

Hendricks et al. discloses perforated plates for use as filter media and devices for fluid injection and extrusion have a multiplicity of holes of a uniform size and a selected diameter as small as 0.5 micron. (abstract). The plates are made by a "wire drawing" process wherein a sacrificial wire material in a plate metal can is repeatedly extruded and restacked, elongating the wire and reducing its diameter. (abstract). Plates are then cut from the extruded composite, and the wire metal is removed by selective etching. (abstract).

Claim 15, as amended, recites a filter body for use in a particulate filter for an internal combustion engine, the filter body having internal cavities, formed by using a semiconductor technology type micro-patterning process, the filter body being heatable during operation.

Claim 28 recites a particulate filter for a motor vehicle, comprising

a housing with at least one gas inlet and at least one gas outlet, and

a filter body in the housing,

the filter body being formed by using a semiconductor technology type micro-patterning process.

Hendricks et al. does not discloses a filter body formed by using a semiconductor technology type micro-patterning process, as recited in claims 15 and 28. The perforated plates in Hendricks et al. are formed by heating and extruding stacked hexagonal rods having niobium-titanium alloy cores through a die, cutting the stacks into wafers and etching away the cores with hydrofluoric acid. It is respectfully submitted that this process in Hendricks et al is in no way a semiconductor technology type micro-patterning process.

Withdrawal of the rejections under 35 U.S.C. §102(b) to claims 15, 16, 19 to 24 and 28 is respectfully requested.

With further respect to claims 19 and, Hendricks et al. does not disclose that the internal cavities are of differing dimensions or that the all of the cavities decrease constantly in the direction of flow. Hendricks et al. teaches using plates with holes of uniform size and geometry. (See Figs. 2, 5; Col. 5, Lines 3 to 5; Col. 6, Line 66 to Col. 7, Line 1; Col. 8, Lines 4 to 9).

With further respect to claim 20, Hendricks et al. does not disclose the internal cavities decrease in a direction of flow. It is respectfully submitted that the Office Action does not specifically point out where such a limitation is disclosed in Hendricks et al.

With further respect to claim 24, Hendricks et al. does not disclose the electrically conductive material forms regions of differing specific conductivity. It is respectfully submitted that the Office Action does not specifically point out where such a limitation is disclosed in Hendricks et al.

Claims 15 to 18, 23, 24 and 27 to 29 were rejected under 35 U.S.C. §102(b) as being anticipated by U.S. 5,543,046 (Van Rijn).

Van Rijn discloses an inorganic membrane for microfiltration, and a process for production of such an inorganic membrane. The membrane layer is formed through depositing an inorganic layer by "Chemical Vapour Deposition" or "sputtering" on the macroporous support, onto this inorganic layer a photo-lacquer layer is formed, this photo-lacquer layer being exposed to a regular mask pattern with the use of a suitable source, this lacquer layer being developed, and in the inorganic layer the mask pattern is etched by a suitable etchant, thus forming the membrane layer. (abstract).

Claim 15, as amended, recites a filter body for use in a particulate filter for an internal combustion engine, the filter body having internal cavities, formed by using a semiconductor technology type micro-patterning process, the filter body being heatable during operation.

Van Rijn does not disclose the filter body being heatable during operation, as now recited in claim 15. Van Rijn involves the separation of biological cells. One of skill in the art could

not have made the membrane disclosed in Van Rijn heatable during operation, as it would not be suitable for such a use. Moreover, the membrane in Van Rijn is not "for use in a particulate filter for an internal combustion engine, as claimed.

Withdrawal of the rejection under 35 U.S.C. 102(b) to claims 15 to 18, 23, 24 and 27 is respectfully requested.

Claim 28 recites a particulate filter for a motor vehicle, comprising
a housing with at least one gas inlet and at least one gas outlet, and
a filter body in the housing,
the filter body being formed by using a semiconductor technology type micro-patterning process.

Van Rijn does not disclose a housing with at least one gas inlet and at least one gas outlet. Furthermore, it is respectfully submitted that the Office Action does not provide any rationale or evidence to support the assertion on page 4 of the Office Action that the housing is inherent, and is in error. (See MPEP 2112). Moreover, the membrane in Van Rijn is not "a particulate filter for a motor vehicle, as claimed.

Withdrawal of the rejection under 35 U.S.C. 102(b) to claims 28 and 29 is respectfully requested.

With further respect to claim 29, Van Rijn does not disclose the particulate body recited in claim 29 further comprising at least one filter body made from sintered material. It is respectfully submitted that this limitation is not specifically addressed in the Office Action in regards to Van Rijn and the Office Action is thus in error.

35 U.S.C. 103(a) Rejections

Claim 26 was rejected under 35 U.S.C. §103(a) as being unpatentable over Frei et al. in view of U.S. 6,773,497 (Debenedetti et al.).

In view of the arguments above with respect to the rejections under 35 U.S.C. 102(b), withdrawal of the rejections under 35 U.S.C. 103(a) to claim 26 is respectfully requested.

Claim 30 was rejected under 35 U.S.C. §103(a) as being unpatentable over Hendricks et al. or Van Rijn in view of Frei et al.

Hendricks et al., Van Rijn and Frei et al. are described above.

Claim 30 recites a vehicle including a particulate filter comprising:

a housing with at least one gas inlet and at least one gas outlet, and

a filter body in the housing,

the filter body being formed by using a semiconductor technology type micro-patterning process.

In view of the arguments above with respect to the rejections under 35 U.S.C. 102(b), withdrawal of the rejections under 35 U.S.C. 103(a) to claim 30 is respectfully requested.

Furthermore, it would not have been obvious to one of skill in the art at the time of the present invention to have modified Hendricks et al. or Van Rijn in view of Frei et al. to obtain the invention as recited in claim 30. The filter of Hendricks et al. is used to filter fluids in fluid injection and the membrane of Van Rijn is used to filter biological cells. Neither Hendricks et al. nor Van Rijn would have been reasonably pertinent to filtering gases in a vehicle.

CONCLUSION

It is respectfully submitted that the application is in condition for allowance and applicants respectfully request such action.

Respectfully submitted,

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